

DOCUMENT RESUME

ED 264 025

PS 015 505

AUTHOR Robinson, Clyde C.; Jackson, Ronald
TITLE The Effects of Varying Structure within a
Prototypical Play Object on the Solitary Pretend Play
of Preschool Children.
PUB DATE Jun 85
NOTE 30p.; Paper presented at the Association for
Childhood Education International Study Conference
(San Antonio, TX, June 18-22, 1985).
PUB TYPE Reports - Research/Technical (143) --
Speeches/Conference Papers (150)
EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Behavior Patterns; Creativity; Interest Research;
*Preschool Children; Preschool Education; *Pretend
Play; *Toys
IDENTIFIERS Distraction; *Solitary Play

ABSTRACT

Claims about the relative holding-power and play-versatility of toys either low or high in amount of realistic detail, such as miniature metal cars, were tested in a solitary play environment with and without the use of props. Subjects were 36 middle-class preschool children. Results suggest that, when structure is varied within the toy prototype, high-detailed cars had a greater holding power than low-detailed cars on children's pretend play, a finding contrary to prevalent claims. Significantly less distracted behavior occurred with high-detailed cars. Contrary to claims about the versatility of play, no significant differences were found between children exposed to high- and low-detailed cars in the number of play categories they engaged in. While props, such as roads, had little impact upon the length of time children spent in pretend play, they did focus the children's play upon prototypic-theme behaviors. It is concluded that a prototypic toy seems to elicit a somewhat fixed repertoire of play behaviors in preschool children playing alone. Increasing the amount of realistic detail on the prototypic toy does not appear to enhance the versatility of toy-manipulation behaviors, but it does appear to influence the duration of play.
(Author/RH)

* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION
CENTER (ERIC)

X This document has been reproduced as
received from the person or organization
originating it.
Minor changes have been made to improve
reproduction quality.

- Points of view or opinions stated in this docu-
ment do not necessarily represent official NIE
position or policy.

The Effects of Varying Structure Within a Prototypical
Play Object on the Solitary Pretend Play
of Preschool Children

Clyde C. Robinson and Ronald Jackson

Division of Education

Brigham Young University - Hawaii Campus

"PERMISSION TO REPRODUCE THIS
MATERIAL HAS BEEN GRANTED BY

Ronald Jackson

TO THE EDUCATIONAL RESOURCES
INFORMATION CENTER (ERIC)."

Running Head: EFFECTS OF TOY DETAIL ON SOLITARY PRETEND PLAY

ED264025

PS015505

Abstract

Claims about the relative holding-power and play-versatility of low- versus high-realistically detailed toys (e.g., miniature metal cars) were tested in a solitary play environment with and without the use of props using 36 middle-class preschoolers. Results suggest that when structure is varied within the toy prototype, high-detailed cars, compared with low-detailed cars, had a greater holding-power on children's pretend play which is contrary to prevalent claims. Significantly less distracted behavior also occurred with high-detailed cars. Contrary to claims about play versatility, there were no significant differences between high- and low-detailed cars in the number of play categories in which the children engaged. Props (e.g., roads) had little impact upon the length of time children spent in pretend play, however, they did focus the children's play upon prototypic-theme behaviors.

The Effects of Varying Structure Within a Prototypical
Play Object on the Solitary Pretend Play
of Preschool Children

Since young children spend a considerable amount of time with toys in their play environments, much attention has been directed towards the role and influence that objects have upon pretend play by child developmentalists (Rubin, Fein, & Vandenberg, 1983, chap. 9). More specifically, interest has focused on how the play objects' structure or quality of prototypic detail effects children's play behavior (see, Caplan & Caplan, 1973, chaps. 6 & 7). Although not extensively researched, a primary assumption underlying this attention to prototypic structure is the proposition that toys are not neutral but influence children in various ways through the child's interpretation of the object's function (Lewin, 1931, p. 101). Thus, if children are familiar with the set of materials available to them, some objects are more likely to "pull for" some forms of play than others depending upon the objects' prototypic structure. Using this assumption, two specific claims have been made about the holding power of low- and high-structure objects and how they effect the creativity or versatility of children's pretend play. It has been reasoned that, because low-structure play objects (e.g., blocks, modeling clay, cardboard boxes) are relatively pliant and free of enhanced detail that dictate a rigid purpose, they are easier to incorporate into preconceived play schemas and therefore may hold

the preschool-age child's interest over longer periods of time as new ideas are tried out (holding-power claim). Conversely, the detail and "realness" of a replica toy can hamper free creative or versatile play (play-versatility claim) because the toy can only be used for what it was originally intended (Caplan & Caplan, 1973, chap. 6; Smilansky, 1968, chap. 3).

Two ways in which the structure of play objects may vary and thus effect pretend play are between toy prototypes (e.g., low-structure = blocks & high-structure = medical kit), and within a toy prototype (e.g., low-structure = faceless rag doll & high-structure = Barbie doll). As far as we are aware, those who have promulgated the holding-power and play-versatility claims have failed to specify whether the claims apply to structural variance between toy prototypes, within a toy prototype, or both. Because of this lack of distinction, the implicit conclusion suggested in the literature is that the holding-power and play-versatility effects of play objects applies when structure is varied between as well as within toy prototypes.

We are not aware of studies which have addressed both the holding-power and play-versatility claims while varying object structure within a toy prototype. When research has been conducted varying object structure between toy prototypes, the focus has been mainly on how low-structure objects effect play versatility while the holding-power claim has been neglected. Furthermore, the results of these studies have not been

conclusive. Jeffree and McConkey (1976) found that high-structure playthings (e.g., rag doll, miniature chair and bed) elicited more pretend play and elaborate imaginative actions than low-structure playthings (e.g., boxes, pieces of wood, ball of cloth) for 1 1/2- to 3-year-olds in solitary play. Conversely, Pulanski (1970) found for 3- to 7-year-old children in solitary play that low-structure playthings (e.g., clay, blocks, pipe cleaners) did elicit more pretend theme changes but they were not significantly different from high-structure playthings (e.g., doll house & furniture, cars & garage) in effecting the level of creativity expressed in pretend play. Supporting the effects on solitary play by Jeffree and McConkey, McLoyd (1983) found that for 3- and 5-year-old preschool children tested in groups of three, high-structure playthings (e.g., trucks, tool kits, tea sets, toy stove & telephone) elicited more overall pretend play, more pretend themes, and more vocalizations than did low-structure playthings (e.g., pipe cleaners, metal cans, blocks, construction paper). However, McLoyd did find that low-structured playthings evoked more object substitutions.

Besides mainly testing for effects of object structure upon children's play versatility between toy prototypes while failing to adequately address the holding power of low-structured toys, a major problem with studies in this area is that most have been based on play situations in which the children were free to choose their own activities or toys among a variety of objects. In light

of this, the effects of detail or toy structure upon children's play have been confounded with effects of objects. Also, the literature on pretend play fails to confirm whether the holding-power and play-versatility claims of low-structured playthings apply when structure is varied within a toy prototype.

In the present study the structure of a plaything is varied within a toy prototype to examine how this procedure effects the holding-power and play-versatility claims. This procedure was accomplished by using a single prototype as the target stimuli (viz., miniature cars) and incrementally altering it's degree of realistic detail while holding the size, mobility, and the construction material (in this case, metal) constant. This procedure attempts to control for object effects which confound the interpretation of the relationship between object structure and pretend play. The primary interest of the study is the extent that incremental differences in the amount of realistic detail within a toy prototype will influence certain dimensions of preschool children's play behaviors such as; amount of time children spend playing with the objects, the amount of time they spend in distracted behavior, the number of pretend play categories in which the children engage while playing with the toy prototype, and the proportion of time children spend in nonprototypic-theme play. Currently there exists in the literature considerable disagreement among researchers and play theorists (see Rubin, Fein, & Vanderberg, 1983, chap. 9) over

precisely which particular sets of behaviors, motives, and environmental conditions constitute children's play. For this study, play will be operationally defined as any toy-manipulation behavior.

A second interest of this study is the assessment of gender differences in play behavior that may result from using traditional unisex toys (viz., miniature cars) as play objects. A venerable finding in the study of pretend play is that girls prefer dolls and house toys while boys prefer blocks and transportation toys (e.g., Connor & Serbin, 1974; Fagot, 1974; Fagot & Patterson, 1969; and Fling & Manosevitz, 1972). However, since most preference studies do not report precisely what preschool children do with these objects it is not clear how the genders will differ in pretend play when the amount of realistic detail on the toy cars is varied. The inference that boys will exhibit different behaviors than girls may not be warranted.

Since children's play with miniature cars in the preschool environment is often accompanied with other related toys or props, a third interest is the extent that props, in the form of roads designed in a carpet, will effect the children's play behavior with the various prototypic-detail levels. Chaille (1978) found evidence which suggests that 3- and 4-year-old children's imaginative play should be enhanced with the use of props while older, more cognitively sophisticated children (i.e., 7- and 8-years-old), should rely less upon props for their imaginative

play. Roads designed in a carpet were chosen as a prop because we did not want the prop to be a manipulatory play object which could potentially compete for playing time with the miniature cars.

Finally, the two claims made by child developmentalists that low-structure toys have a greater holding power as well as enhancing the versatility of pretend play have typically not been specific as to the social context of play (i.e. while playing with toys alone or with other children). In addressing the social context issue, the first logical step was deemed to be to test the effects of varying structure within a toy prototype for solitary play since this age group of children do spend some time playing alone at preschool and, we suspect, even more at home. Thus, the present subjects were tested individually rather than in dyads or triads to insure against social-interaction effects which would confound effects due purely to varying detail or structure within a toy prototype.

Given McLoyd's (1983) findings when different toy prototypes were used to test for object-structure effects, it was predicted (contrary to claims made by many child developmentalists) that cars high in realistic detail would have a greater holding power upon preschool children's solitary play than would cars low in realistic detail. Even though claims have been made that preschool children's play will be more diversified and nonstereotyped with low-structured playthings, the evidence in the literature remains inconclusive. As a result, no predictions were

made concerning how the levels of realistic detail on the cars would effect the dependent measures. Following Chaille's (1978) findings, it was predicted that the use of props in conjunction with miniature cars would enhance preschool-age children's solitary pretend play, however, predictions addressing the types of interaction which could occur between detail level and props were not made. Also, predictions about how or if the genders would differ in the nature of their solitary pretend play using traditional unisex toys (e.g. miniature cars) were not made.

Method

Sample

Subjects were 36 children (18 males and 18 females) between 50 and 62 months of age ($\bar{x} = 54.9$) who attended a university affiliated preschool. Subjects were predominantly from middle- and lower-middle-class backgrounds. Of the 36 children, 15 were Caucasian, 16 Polynesian, and 5 Asian-American. The children were randomly assigned to the experimental conditions equated for sex.

Materials

The study was designed to analyze the solitary pretend play of preschool children when structure within a toy prototype is varied by giving subjects high-, medium-, and low-realistically detailed toys with or without the use of props. The toy prototype used to vary the level of realistic detail was miniature metal cars (Match Box cars). Five attractively colored and realistically detailed miniature cars with racing stripes and

functioning doors were used as high-detailed toys. Medium-detailed toys consisted of five realistically detailed miniature cars (without functioning doors) sprayed with gray paint to reduce the amount of detail. Some amount of realistic detail was still distinguishable underneath the gray paint, however, the detail was subdued. Low-detailed toys were five miniature cars which had most of the realistic detail concealed with auto-body putty. These cars were made to be as free of specific detail as possible and were intended to resemble the simple design of wooden cars offered in preschool curriculum material and supply catalogs. In addition, the low-detailed cars were sprayed tan to mimic the natural finish usually found on wooden cars. The size and ease of mobility for all cars in the low-, medium-, and high-detailed conditions were held constant. The set of miniature cars with which the children were to play during each experimental condition was placed in a play room on a child-sized 30" x 50" table. For the with-prop conditions, a commercially manufactured carpet with roads and buildings in the design was placed on the table. A tightly woven plain carpet cut to the size of the table top was placed on the table for the without-prop conditions to match the carpet play surface of the with-prop conditions. Placing the miniature cars on a table served not only to facilitate visibility for videotaping but more importantly defined the area where the children were to play.

Procedure

The experimental conditions were a 2 (without prop, with prop) x 3 (high-detailed miniature cars, medium-detailed miniature cars, low-detailed miniature cars) factorial design with 6 subjects per cell, equated for gender. The children were invited by their head teacher to ". . . play with some new toys in another room." Two children (1 boy and 1 girl) did not want to participate and were replaced by other children. The children were brought individually into a play room adjacent to their classroom by the teacher and shown either a homogeneous set of five high-, medium-, or low-detailed miniature cars (depending upon the experimental condition) placed upon the child-size table. After inviting them to play, the teacher told the children that she would be working in the room on the other side of some classroom partitions and that they were to come and tell her when they were finished playing with the toys. The teacher then left the play area and went behind the partitions, at which time an experimenter in an adjacent observation booth began videotaping the children's behavior from behind a one-way mirror. The children determined the length of the play session by going to the teacher and stating that they were finished playing. If children required restroom breaks they were brought back to the play area and allowed to continue until they stated that they were finished playing.

Data Preparation

Five dependent variables taken from the videotape segments of

each child were used to assess the toy's holding power and the versatility of children's pretend play: (1) total time, (2) distraction time, (3) time on task, (4) number of pretend play categories, and (5) nonprototypic-theme behavior. Total time was defined as the total amount of time each child spent in the play room, excluding restroom breaks. Time on task was defined as the actual amount of time each child spent specifically manipulating the toy prototypes in some way (i.e., touching, examining, pushing, etc.). Time on task was determined by two observers viewing the videotape segments and measuring the time with stop watches. The amount of distraction time was calculated by subtracting the time-on-task measure from the total-time measure.

In order to determine the number of play categories in which the children engaged and the proportion of play spent in nonprototypic-theme behavior, a time sampling unit (TSU) coding procedure was used to measure the types of toy-manipulation behaviors exhibited by the children. To identify and classify the play categories, the observers viewed the videotapes and recorded the types of behaviors commonly exhibited by the children (i.e., rolling cars, crashing cars, making geometric shapes, etc.). Subsequently an approximation of the frequency of these behaviors was recorded. The majority of the recorded behaviors were classified into 18 categories and included on an observation checklist. Three research assistants who were unfamiliar with the purpose of the study then viewed the videotapes and, using the

checklist, tallied the behaviors exhibited by each child. Time sampling units were recorded every 15 seconds. One assistant announced each 15 second interval while two assistants tallied the specific TSU in which the child was engaged at the beginning of the interval. Behaviors not included in any of the identified categories were marked in an "Other" category and briefly described. Because some types of toy-manipulation behaviors were maintained over several minutes while others changed rapidly it was easier and more reliable to assess the behaviors with this time sampling technique using 15 seconds as the intervals. The percentage of agreement between the assistants on the TSUs for each child ranged from 75% to 100% with a mean of 92%.

Results

Preliminary Check for Gender Differences

Since most toy-preference studies in the literature do not report precisely what boys and girls do with the preferred play objects, a series of preliminary analyses were conducted using the time-on-task measure, proportion of distraction time, number of pretend play categories, and the proportion of play spent in nonprototypic-theme behavior as a check to determine whether the choice of miniature cars as the toy prototype produced solitary-play behaviors different for each gender. Analyses of variances (ANOVAs) using these dependent measures failed to yield any significant prop, stimuli level, or interaction effects involving gender of subject. These results suggest that any concerns over

the choice of cars as the toy prototype for both genders is not justified. The findings that girls exhibited similar play behaviors with miniature cars as boys is consistent with those of Eisenberg, Murray, and Hite (1982) who found that girls are more likely to play with stereotyped masculine toys than boys are with stereotyped feminine toys. Since the gender was not a significant factor it was not included in the experimental design for the subsequent analyses. All further data analyses were carried out using 2×3 (props \times detail level) ANOVAs with $df = 2,30$ and all p values based on two-tailed tests of significance. •

Time on Task

The time-on-task measure was used to test the prediction that high-structured or realistically detailed toys will have a greater holding power over preschool-age children's solitary play than will low-structured toys. The time-on-task mean for the low-detailed prototype was 5.25 minutes, the mean for the medium-detailed prototype was 7.80 minutes, and the mean for the high-detailed prototype was 10.92 minutes. The ANOVA using these means indicated a significant detail effect, $F = 3.74$, $p < .05$. A Scheffe's test indicated that as predicted, children played with toy prototype high in realistic detail more than the low-detailed toy prototype. The time on task was approximately twice as great with the high-detailed prototype as it was for the low-detailed prototype. The mean time on task for the medium-detailed prototype was not significantly different from the means for

either the low- or high-detailed prototypes. A trend analysis on the detail-level means resulted in a significant linear trend, $F = 7.59$, $p > .025$, suggesting that the goal of equally varying the amount of realistic detail within the design of the toy prototype was apparently accomplished. Contrary to predictions based upon Chaille's (1978) findings, no main effect for prop or interaction effect involving the prop was found.

Amount of Distraction Time

The second dependent measure used to assess the holding power of highly-detailed toys was the amount of time children spent in the experimental room in nonprototype manipulation behavior (i.e., amount of distraction time). Distraction time was calculated by subtracting the actual amount of time on task from the total-time measure (excluding restroom breaks). Because the total-time measure was not the same for each subject, each child's total distraction time was divided by his/her total-time measure to give the proportion of time spent in distracted behavior. The means for the proportion of time spent in distracted behavior are listed in Table 1. The ANOVA using these means did not yield a significant effect for either prop or realistic-detail level, however, the interaction was significant, $F = 5.65$, $p < .01$. Scheffe's tests revealed that the interaction effect is due to the difference between the prop condition means when the children played with the low-detailed prototype. Playing with the low-detailed prototype, approximately 14% of the children's total

time was spent in distracted behavior when roads were not available as props. In contrast, about 2% of the children's total time playing with the low-detailed prototype was spent in distracted behavior when roads were used as props. For the medium- and high-detailed prototypes, there were no significant differences in the proportion of distraction time between the prop conditions.

Insert Table 1 about here

Play Categories

The flexibility and fluency of solitary pretend play were examined to test the general claim that high-structured toys hinder free creative play for preschool-age children. Flexibility of toy-manipulative play was operationalized by the number of play categories with which the children engaged. The fluency of free creative play was operationalized by the proportion of the time-on-task measure the subjects spent in nonprototypic-theme play.

Number of toy-manipulative categories. The mean number of toy-manipulative categories calculated from the children's TSUs over all of the experimental conditions was 7.28. The ANOVA testing for prop, level of detail, and interaction effects using the number of play categories yielded no significant differences. Again to control for the discrepancies in the amount of playing time between children, each child's number of toy-manipulative categories was divided by his/her time-on-task measure. An ANOVA

using this proportion of toy-manipulative TSUs resulted in a significant prop effect, $F = 13.39$, $p < .001$. Without roads, children engaged on the average of 1.32 categories per minute which was significantly higher than the mean of .83 categories per minute when playing with roads.

Prototypic- and Nonprototypic-theme behaviors. The 18 play categories were collapsed into prototypic- and nonprototypic-theme behaviors and the proportion of each calculated for each child. Examples of prototypic-theme behaviors for toy cars included rolling one or more cars in one or both hands, crashing cars, freewheel pushing, and spinning the tires, etc. Examples of car-manipulative behaviors that were classified as nonprototypic themes included making geometric shapes with the cars, building a car tower, and flying the cars through the air. An ANOVA using the total time spent in nonprototypic-theme behavior did not yield a significant main effect or interaction. Subjects averaged 2.07 minutes, 1.69 minutes, and 2.60 minutes in nonprototypic-theme behavior for low-, medium-, and high-detailed toy prototypes respectively. Again to control for the unequal amounts of playing time, the proportion of nonprototypic-theme behavior was divided by the child's time-on-task measure. These mean proportions are listed in Table 2.

Insert Table 2 about here

An ANOVA using the mean percent of nonprototypic-theme behavior yielded a significant prop effect ($F = 30.14$, $p < .000$), a significant detail-level effect at the .10 level of significance ($F = 2.95$, $p < .10$), and a significant interaction ($F = 4.09$, $p < .05$). These results are depicted in Figure 1.

Insert Figure 1 about here

Discussion

Holding Power of Low-Structured Toys

The primary interest in this study was to examine two general claims made by child developmentalists concerning the relationship between the nature of preschool children's play and the amount of a play object's realistic detail when the detail is varied within a toy prototype. Concerning the claim that low-structured toys, will have a greater holding power upon young children's play than high-structured toys, both time-on-task and distraction-time measures failed to support the claim. These data indicate that when the toy prototype is held constant while at same time varying the amount of realistic detail, preschool children's solitary play is approximately twice as long with high-structured toys as it is with low-structured toys while the amount time spent playing with medium-structured toys is approximately midway between high- and low-structured toys. Likewise, the proportion of the children's distracted behavior was significantly less when playing with

high-structured toys than it was when playing with low-structured toys suggesting that the children's concentration on their play was greater with high-structured toys. These findings coupled with those of Jeffree and McConkey (1976) and McLoyd (1983) suggest that sufficient evidence in the literature is accumulating, for solitary and social-play settings, which seriously challenges the claim that low-structured toys have a greater holding power over preschool children's play than high-structured toys when structure is varied between and within toy prototypes. Since the targeted playthings used in this study and the studies cited above are objects quite familiar to the subjects, confounding effects due to the objects' novelty can be ruled out with some confidence.

Versatility of Pretend Play

Concerning the claim that young children's pretend play with low-structured toys will be more versatile than their pretend play with high-structured toys, these data suggest that varying the amount of realistic detail within a toy prototype did not have an effect upon the total number or the proportion of toy-manipulative categories with which the subjects engaged (viz., flexibility of pretend play). In contrast, for fluency of pretend play, the interpretation of these data is more complex. The amount of realistic detail did not effect the children's total time of play spent in nonprototypic themes, however, when controlling for the unequal time-on-task measures between the subjects, a larger

proportion of the children's solitary play with the low-structured play objects was spent in nonprototypic themes in contrast to the proportion of play with the high-structured play objects. This finding should be interpreted in conjunction with those which show that the time-on-task mean for the low-structured toys was, on the average, one half of the time-on-task mean for the high-structured toys. Since the number of toy-manipulative categories and the overall total time of nonstereotyped toy manipulation is virtually the same for each level of prototype detail, a plausible explanation for the increase in the proportion of nonprototypic-theme play in the low-detailed condition could be that the increase is due to boredom on the part of the children. Giving further support to a boredom explanation is the finding that the children spent a greater proportion of their total time with low-detailed toys in distracted behavior compared to the proportion of distracted behavior with the medium- and high-detailed toys. The possibility that free creative play results from boredom of low-structured prototypes rather than from repetitive enactment of themes congruent with replica toys will have to be studied more precisely in further research. Resolving this question could have an interesting impact in early childhood education since, judging from the authors' experiences, many of the play objects offered in catalogs catering to preschool/daycare centers are designed to be low in prototypic detail for the specific purpose of enhancing the versatility of preschool

children's pretend play.

Use of Props

Contrary to the predictions based upon Chaille's (1978) findings, props in the form of roads and buildings designed in a carpet appeared to have little effect on enhancing the holding power of the miniature cars in solitary pretend play conditions regardless of the level of prototypic detail. Generally, a secondary effect upon the toy-manipulation behavior that the props did have was in reducing the versatility of the children's play with the medium- and low-detailed prototypes. For highly-detailed prototypes the time-on-task measure, proportion of distraction time, number of toy-manipulation categories engaged, and the proportion of play spent in prototypic themes were not effected by the use of props. This suggests that something similar to a stimuli threshold effect is taking place when the preschool-age children play with highly-structured toy prototypes. When playing with highly-detailed toys, the addition of further stimuli, in the form of props, then would have little impact upon the solitary pretend play behavior of preschool-age children. Results consistent with a stimulus threshold explanation, however, were not found for the pretend play with the medium- and low-detailed prototypes. Props used in conjunction with low-detailed prototypes did significantly reduce the distraction time of children, yet curiously, did not subsequently increase time on task as would be expected. The variables most influenced by the

props were the proportion of toy-manipulation categories (for all three prototypic-detail levels) and the proportion of nonprototypic-theme play (for the low- and medium-detail levels). Even though the use of props had little impact upon the length of time the children manipulated the play objects, the props did appear to focus the children's pretend play upon typical prototypic-theme behaviors.

Conclusions

These data seem to indicate that a prototypic toy elicits a somewhat fixed repertoire of play behaviors in preschool-age children when playing in a solitary environment. That this repertoire for prototypic pretend play is somewhat restricted is supported by the findings that, regardless of the level of realistic detail, (1) there were no differences in the number of toy-manipulation categories with which the children engaged and (2) there were no difference in the total time the children spent in prototypic- and nonprototypic-theme behaviors. Increasing the amount of realistic detail on the prototypic toy does not appear to enhance the versatility of toy-manipulation behaviors in the preschool child's pretend play repertoire, but it does appear to sustain the children's repertoire helping them to play with high-structured prototypes significantly longer than they do with low-structured prototypes. The precise reason for this play sustaining effect and whether it applies to other play objects besides realistically detailed miniature cars is beyond the scope

of these data. Conversely, play objects with low amounts of prototypic detail do not appear to be attractive enough to sustain the child's pretend play repertoire as evidenced by (1) the children spending less time playing with them and (2) the increase in the proportion of distracted behavior. Finally, these data point out the importance of taking into account time on task with the play object when testing for effects of low-structured objects upon free creative play. Without controlling for the unequal amounts of time on task between the object-structure levels in this study, the preschool children's play would have been interpreted as being more free and creative with the low-structure objects since a greater proportion of their play behavior with this level of detail was spent in nonprototypic themes. However, other explanations (i.e., boredom) are probable when realizing that the children on the average played one half as long with the low-structured prototype as compared to the high-structured prototype.

References

- Caplan, F., & Caplan, T. (1973). The power of play (pp. 154-247). Garden City, N.Y.: Anchor Books.
- Chaille, C. (1978). The child's conceptions of play, pretending, and toys: Sequences and structural parallels. Human Development, 21, 201-210.
- Connor, J. M., & Serbin, L. A. (1977). Behaviorally based masculine and feminine activity-reference scales for preschoolers: Correlates with other classroom behaviors and cognitive tests. Child Development, 48, 1411-1416.
- Eisenberg, N., Murray, E., & Hite, T. (1982). Children's reasoning regarding sex-typed choices. Child Development, 53, 81-86.
- Fagot, B. I. (1974). Sex differences in toddlers' behavior and parental reaction. Developmental Psychology, 10, 554-558.
- Fagot, B. I., & Patterson, G. (1969). An in vivo analysis of reinforcing contingencies for sex role behavior in the preschool child. Developmental Psychology, 1, 563-568.
- Fein, G. G. (1981). Pretend play in childhood: An integrative review. Child Development, 52, 1095-1118.
- Fling, S., & Manosevitz, M. (1972). Sex typing in nursery school children's play interests. Developmental Psychology, 7, 146-152.
- Jeffree, D., & McConkey, R. (1976). An observation scheme for recording children's imaginative doll play. Journal of Child Psychology and Psychiatry, 17, 189-197.

- Lewin, K. (1931). Environmental forces in child behavior and development. In C. Murchison (Ed.), A handbook of child psychology. Worcester, Mass.: Clark University Press.
- McLoyd, V. C. (1983). The effects of the structure of play objects on the pretend play of low-income preschool children. Child Development, 54, 626-635.
- Pulaski, M. A. (1970). Play as a function of toy structure and fantasy predisposition. Child Development, 41, 531-537.
- Rubin, K. H., Fein, G. G., & Vandenberg, B. (1983). Play. In P. H. Mussen (Ed.), Handbook of child psychology: Vol. 4. Socialization, personality, and social development. (4th ed.) (pp. 693-774). New York: John Wiley & Sons.
- Smilansky, S. (1968). The effects of sociodramatic play on disadvantaged preschool children (pp. 19-46). New York: John Wiley & Sons.

Table 1

Mean Proportion of Play Session Spent in Distracted Behavior
For Low-, Medium-, and High-Detail Cars With or Without Props

Car Detail	Prop	
	Without	With
Low	.14	.02
Medium	.05	.07
High	.05	.07

Table 2

Mean Proportion of Pretend Play Spent in Nonprototypic-Theme Behavior For Low-, Medium-, and High-Detail Cars With or Without Props

Car Detail	Prop		Total
	Without	With	
Low	.57	.18	.37
Medium	.42	.08	.25
High	<u>.27</u>	<u>.20</u>	.24
Total	.42	.15	

Figure Caption

Figure 1. Mean Proportion of Pretend Play Spent in
Nonprototypic-Theme Behavior For Low-, Medium-, and High-Detail
Cars With or Without Props.

